

ABSTRACT

A hybrid dehumidification system includes a compressor, a condenser, an expansion device and an evaporator connected for flow of working fluid through a fluid circuit; a reheat coil positioned relative to the evaporator for heating at least a portion of a stream of air passing through the evaporator; and a working fluid directing system adapted to flow working fluid in at least two modes of operation selected from the group consisting of a standard cooling mode, a cooling and enhanced dehumidification mode; a dehumidification without substantial sensible capacity mode; a heating and dehumidification mode; and a dehumidification with variable sensible capacity mode.